Policy effectiveness assessment of selected tools for addressing marine plastic pollution

Extended Producer Responsibility in Kenya

ENVIRONMENTAL LAW PROGRAMME

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Extended Producer Responsibility in Kenya

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1 Introduction

1.1 Background & context of the report

This report has been prepared for the International Union for Conservation of Nature (IUCN) Environmental Law Centre in the context of the policy component of the Marine Plastics and Coastal Communities (MARPLASTICCs) Project. It builds upon a previous assessment titled "The legal, policy and institutional frameworks governing marine plastics in Kenya" and is part of a larger framework analyzing marine plastic policies in five countries, namely: Kenya, Mozambique, South Africa, Thailand and Viet Nam.

In a survey conducted by IUCN to determine, among others, the most appropriate legal tools for tackling marine plastic pollution in Kenya, stakeholders ranked Extended Producer Responsibility (EPR) as the top most appropriate legal tool, followed closely by bans on plastic products and economic incentives such as tax exemptions, with other tools such as voluntary levies falling lower in the ranking.[1] The results of this survey together with further stakeholders' inputs informed the need for an in-depth policy effectiveness assessment of EPR as a possible legal tool for marine plastics management in Kenya.[2]

1.2 Objective of the study

This report analyses the effectiveness of EPR as a possible legal tool to address plastic leakage into the marine environment in Kenya. The report entails a four-level analysis: the **instrumental level** which examines how EPR could be expressed and implemented through national and sub-national legal instruments and regulatory frameworks; the **institutional level** which examines the possible organizational structures for implementation of the EPR system in Kenya; the **behavioural level** which examines how EPR mechanisms could affect the behaviour of various stakeholders such as government institutions, businesses and the private sector, consumers, and others; and, finally, the **outcome level** which examines potential outcomes of implementing an EPR scheme for plastic products and packaging in Kenya.

1.3 Methodology

This study employed a qualitative approach that entailed literature review and key informant interviews. A literature review was undertaken to obtain a conceptual understanding of the EPR principle and its underpinning contexts within diverse legal regimes. A further literature review was conducted to establish how an EPR mechanism could potentially fit within the existing legal, regulatory and institutional frameworks for marine plastics management in Kenya. Various policy and legal instruments, technical and scientific literature, government and industry reports were reviewed.

The results of the literature review were complemented by insights obtained from semi-structured key informant interviews that focused on all the four levels of the analysis. The interviews sought to capture perspectives of different stakeholder groups including civil society, businesses/private sector, government officials and experts.

1.4 Overview of Extended Producer Responsibility (EPR)

The Organization for Economic Co-operation and Development (OECD) defines Extended Producer Responsibility (EPR) as "an environmental policy approach in which a producer's responsibility for a product is extended to the post-consumer stage of a product's life cycle".[3] The EPR concept as practiced today is credited to the work of Thomas Lindhqvist, a Swedish scholar who, in 1990, proposed to Sweden's Ministry of Environment that manufacturers of products should be required to take

[1] IUCN ELC (2020). *The legal, policy and institutional frameworks governing marine plastics in Kenya: Exchange of perspectives to define priorities. Report of stakeholders' Webinar held on 28 July 2020.* https://www.iucn.org/sites/dev/files/content/documents/webinar_report_kenya_05112020.pdf

[2] Ibid

[3] OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.

responsibility for the entire life-cycle of their products including the post-consumer stage.[4] In a report published in 1992, Lindhqvist described EPR as "an environmental protection strategy to reach an environmental objective of a decreased total environmental impact from a product, by making the manufacturer of the product responsible for the entire life-cycle of the product and especially for take-back, recycling and final disposal of the product".[5]

EPR embodies the "polluter-pays" principle, which requires that the costs of pollution prevention measures, clean-up, or payment for damage caused by pollution should be borne by those who cause it.[6] EPR seeks to shift the responsibility for the post-consumer stage of a product's life-cycle through two main policy interventions: [7]

i. Providing incentives to producers to incorporate environmental considerations in the product design to minimize waste generation; and
ii. Putting in place a take-back requirement that obligates producers (individually or collectively through a producer responsibility organization) to assume the economic burden of managing the potential adverse environmental impacts of their products through collection, recycling or final disposal of waste associated with the product in question.

European Union (EU) countries were the first to adopt EPR legislations and schemes for pollution prevention and waste minimization.[8] Germany led the way by enacting a legislation in 1992 that required the reduction of packaging waste.[9] Other EU countries followed suit soon with legislations initially requiring manufacturers to take responsibility for collection, recycling, or disposal of their packaging materials. Today, EPR policies have developed to require producers to assume responsibility not just for packaging but for the products themselves throughout the product life-cycle.[10] In addition, many countries and regions have embraced the EPR principle and numerous EPR schemes are currently in place, as well as EPR policies and legislations across the globe.

2 Instrumental level

The Government of Kenya has at its disposal, various legal and regulatory tools including bans (such as the 2017 ban on plastic carrier bags), and economic instruments (e.g. taxes, levies, and subsidies) to impose and implement plastic waste management requirements. However, these approaches all come with mixed results.[11] The growing problem of plastic waste in the country, coupled with increased environmental awareness among citizens, is driving the government to consider other innovative legal tools to address the problem with minimal public cost.

EPR is one of the regulatory approaches currently being considered by the Government of Kenya. Across many jurisdictions, EPR legislations have mostly encompassed take-back obligations on

[4] Curtis, et.al. (2014), *Extended Producer Responsibility and Product Stewardship for Tobacco Product Waste*, Int J Waste Resour.
[5] Lindhqvist, T., (1992). *Towards an Extended Producer Responsibility — analysis of experiences and proposals*. Published by the Ministry of the Environment and Natural Resources in the proceedings of an invitational seminar at Trolleholm Castle, 4-5 May 1992: "Extended Responsibility as a Strategy to Promote Cleaner Products," edited by Thomas Lindhqvist, Department of Industrial Environmental Economics, Lund University.
[6] The polluter pays principle is derived from Principle 19 of the Rio Declaration on the Environment and Development. The principle is a key element of Kenya's environmental governance regime and is coded in the Environmental management & Coordination Act, 1999.
[7] Abbott and Sumaila (2019), *Reducing Marine Plastic Pollution: Policy Insights from Economics.* Review of Environmental Economics and Policy, volume 13, issue 2, Summer 2019, pp. 327–336
[8] Kunz, et.al (2014), *Extended Producer Responsibility: Stakeholder Concerns and Future Developments*. A report prepared by the INSEAD Social Innovation Centre, France.
[9] Ordinance on the Avoidance of Packaging Waste
[10] An example is Directive 2002/96/EC of the European Parliament and of the Council of 27th January 2003 on Waste Electrical and Electronic Equipment (WEEE) (OJ L 37/24 of 13.2.2003).
[11] For example, the plastic carrier bags ban was very successful initially but there seems to be a challenge in monitoring and enforcement and it is not uncommon to see some road side traders in downtown Nairobi still using the banned bags.

manufacturers of products.[12] EPR targets manufacturers due to the great influence they have on product design. EPR legislation thus encourages producers to design environmentally friendly products that are easier to manage at end of life through recycling or final disposal. Take-back legislation is the easiest way to achieve this target.[13] This section examines how the EPR principle could possibly be expressed through Kenya's national and sub-national legal instruments and regulatory frameworks.

2.1 EPR foundations in existing legal and policy frameworks

Kenya is a party to various Multilateral Environmental Agreements (MEAs) that encompass the "polluter pays" principle – the foundational basis for EPR. These are: the Stockholm Convention on Persistent Organic Pollutants, the International Convention on Civil Liability for Oil Pollution Damage, and the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972. In addition, Kenya is a party to the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal. The Convention places a general obligation on Parties to take the appropriate measures to minimize the generation of hazardous wastes. Kenya's international obligations under these MEAs present a good basis for legislating and implementing the EPR principle for various streams of waste including plastics.

The Constitution of Kenya enshrines sustainable development as a key national principle and value of governance.[14] In addition, the Constitution guarantees the right to a clean and healthy environment, which includes the right to have the environment protected for the benefit of present and future generations through legislative and other measures.[15] These provisions provide a strong overarching foundation upon which environmental policy approaches such as EPR can be developed and implemented through legislative measures for the management of environmental challenges such as marine plastics.

Kenya's framework environmental law – the Environmental Management and Co-ordination Act – embraces the "polluter pays" principle as a key tenet of environmental governance.[16] The Act outlines the polluter pays principle as one of the general principles to be applied towards the realization of the right to a clean and healthy environment that is guaranteed by the Constitution and further espoused in the Act.[17] Noting that the foundational basis of EPR is the polluter pays principle, Kenya therefore already has a good foundation for the development of EPR as a possible legal tool to address the leakage of plastic into the marine environment.

Furthermore, the framework environmental law has provisions for the establishment of measures to prevent marine pollution and to assure better waste management. Among the measures outlined in the Act is the power by the minister responsible for environmental affairs to issue regulations to prevent, reduce and control pollution or other forms of environmental damage to the marine environment, as well as regulations for the handling, storage, transportation, segregation and destruction of waste.[18] These provisions present a good place for anchoring EPR mechanisms for the management of marine plastic waste within the existing legal frameworks.

Kenya's waste management regulations also, already have some provisions that place a number of waste management responsibilities on producers. [19] The regulations require waste generators to minimize waste by adopting cleaner production practices such as recovery, re-use, reclamation and

[12] Williams et. al., *Current Status of Extended Producer Responsibility Legislation and Effects on Product Design,* Proceedings of 2000 ASME Japan-USA Symposium on Flexible Automation, Paper Number 2000JUSFA-13000. Ann Arbor, MI, USA. July 24-26, 2000.
[13] Ibid.
[14] Constitution of Kenya, 2010. Art 10(2).
[15] Constitution of Kenya, 2010. Art 42.
[16] Act No. 8 of 1999, Laws of Kenya.
[17] Section 3 of the Environmental Management and Co-ordination Act re-emphasizes the right to a clean and healthy environment guaranteed under article 42 of the Constitution.
[18] Sections 55(7) and 86(4) of the Environmental management and Co-ordination Act.
[19] Environmental Management and Co-ordination (Waste Management) Regulations, 2006 (Legal Notice No. 121/2006)

recycling.[20] Although these requirements do not place an obligation on producers over the entire life cycle of products, they provide a basis to build upon for possible EPR requirements.

Kenya's overarching policy on environment establishes an integrated approach for environmental protection and sustainable management of the country's natural resources.[21] Regarding waste management, the Policy proposes the development of an integrated national waste management strategy to help with effective management of the country's solid waste challenges. Indeed, in 2014 the National Solid Waste Management Strategy was developed to provide a foundational basis to formulate policies and laws for integrated waste management, and promote resource recovery, re-use and recycling. The strategy lists EPR as one of the approaches to realize its objectives.[22]

2.2 Development of EPR in Kenya

The first attempt in Kenya towards a regulatory framework for EPR was in relation to the management of waste from electrical and electronic products (e-waste). In 2011, the National Environment Management Authority (NEMA) published guidelines for e-waste management in the country.[23] Even though the guidelines are not legally binding, they seek to achieve three objectives: creating public awareness on sustainable management of e-waste; providing guidance for sound management of e-waste; and establishing a basis for the development of policies and regulations for the sustainable management of e-waste in Kenya. The Guidelines embrace the EPR concept and encourage manufacturers, assemblers and importers of electrical and electronic appliances and equipment to establish take-back and collection channels for their products at the end of life stage, and to have a built-in cost of product take-back, recycling or final disposal in the product retail price. However, the guidelines lack any incentives for producers to encourage their adoption and are largely not followed.

In 2013, the Government of Kenya went a step further and published draft e-waste management regulations that have detailed EPR provisions.[24] The draft regulations, if enacted, will require manufacturers and importers of electrical and electronic products to assume responsibility throughout the life-cycle of their products, including end of life (waste). Such responsibility will include meeting registration requirements for all producers/importers, submitting annual product inventories to the National Environment Management Authority, establishing collection and take-back mechanisms for end of life products, providing relevant information to recyclers on safe recycling practices, and meeting the costs of recycling or final disposal of end of life products. These draft regulations are yet to be enacted due to legislative delays by parliament and a general lack of political will to push them through.[25]

In 2019, in yet another step towards setting up the country's first legally mandated EPR mechanism, the Government of Kenya published the draft National E-waste Management Strategy.[26] Besides targeting the enactment and implementation of the draft e-waste management regulations discussed above, the draft strategy also calls for the establishment and enforcement of an EPR mechanism through national policy and legislation.

Whereas previous attempts at enacting EPR legislation in Kenya have targeted a single stream of products – mainly electrical and electronic appliances and equipment – the Government has recently had a change of strategy by adopting an approach that would establish a comprehensive EPR framework for a wider range of products, including plastics. The draft Extended Producer Responsibility Regulations of 2020 are currently at an advanced stage of development with promising prospects of

[20] Ibid. Regulation 5.
[21] Government of Kenya (2014). National Environment Policy.
[22] NEMA (2014). National Solid Waste Management Strategy.
[23] NEMA (2011), *Guidelines for E-Waste Management in Kenya.* The Guidelines can be accessed at https://gesci.org/fileadmin/user_upload/8_Expert_Services/E-Waste_Guidelines_Kenya2011.pdf
[24] Draft Environmental Management and Co-Ordination (E-Waste Management) Regulations, 2013. The draft may be accessed at the National Environment Management Authority Website https://www.nema.go.ke/images/Docs/Regulations/Draft%20E-waste%20Regulations-1.pdf
[25] Interview with Mr. Robert Orina, Chief Enforcement Officer, NEMA on 11.12.2020
[26] The draft strategy is available at http://www.environment.go.ke/wp-content/uploads/2019/05/NATIONAL-E-WASTE-MANAGEMENT-STRATEGY-APRIL-29th-1.pdf

enactment and implementation as early as 2021.[27] The draft regulations seek to establish mandatory extended producer responsibility schemes for the a wide array of products and packaging materials with a view to, inter alia, reducing pollution and environmental degradation, promoting sustainable use of natural resources, promoting a circular economy, encouraging environmentally friendly product design and packaging and cleaner production processes. Plastics are specifically listed among the products and packaging materials within the scope of the draft regulations.[28]

3 Institutional level

An efficient EPR system requires the participation of all the key actors in the product and waste value chains. This section examines how an EPR system for plastic products and waste could be implemented in Kenya through existing and/ or new institutions and organizational structures while ensuring clear roles for all the relevant actors within the products and waste value chains.

There are four categories of key actors that should be involved in the development and implementation of EPR systems: producers, consumers, waste operators and regulatory authorities.[29] Therefore, EPR legislation for the management of plastic products and wastes in Kenya should delineate clear roles for each of the above actors.

3.1 Producers

Producers include different actors within the stages in the product value chain: extraction of raw materials, manufacturing, importation, distribution and sale.[30] In the context of Kenya's draft EPR regulations, a producer is defined as "an entity that introduces goods, products and packaging into the market by authorized means including transformation of raw materials into finished goods or products for sale, or other use including intermediate processes that involve production, finishing or semi-manufactured goods, sellers of already manufactured products, or importers, manufacturers, fillers and converters, distributors of material, products and packaging".[31] This definition is broadened to encompass all persons and entities beyond product manufacturers and is intended to capture all whom may introduce products and packaging into the market by any means.

Kenya's proposed regulations place the primary responsibility on producers to manage the entire life cycle of their products and packaging, including the post-consumer stage. If these proposals are enacted into law, the extended responsibility of producers over their products and packaging will include obligations to: minimize adverse environmental impacts of the product; design products and packaging materials that are environmentally safe, reduce waste by enabling reuse, recycling and recovery; establish post-consumer collection and take back mechanisms; and bear the financial and physical responsibility for the management, treatment and disposal of their post-consumer products.[32]

The draft regulations provide producers with two options for the organizational management of their obligations: either to set up individual extended producer responsibility compliance schemes or to organize themselves collectively through producer responsibility organizations.[33]

[27] The draft Extended Producer Responsibility Regulations, 2020 can be accessed at the Ministry of environment website http://www.environment.go.ke/wp-content/uploads/2020/05/4th-May-EXTENDED-PRODUCER-RESPONSIBILITY-REGULATIONS-2020-1.pdf
[28] Schedule 1 of the draft EPR Regulations.
[29] Lindhqvist, T. (2000). *Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems*. Doctoral Dissertation. International Institute of Industrial Environmental Economics, Lund University.
[30] Chin-Yu, D.L (2002). *Extended Producer Responsibility and the Market Development for Recycled Plastics: Two Norwegian cases of using recycled polypropylene in chairs*. Masters Thesis, IIIEE, Lund University.
[31] Regulation 2 of the draft EPR regulations, 2020.
[32] Regulation 5 of the draft EPR Regulations, 2020.
[33] Regulation 9 of the draft EPR Regulations, 2020.

3.1.1 Individual extended producer responsibility scheme

Individual producer responsibility as proposed under Kenya's draft EPR regulations places an obligation on individual producers to establish take-back schemes for their post-consumer and end of life products, and to invest in waste collection systems, treatment, recycling and final disposal either directly or through contracted third parties. However, for a producer to be allowed to set up and run an individual extended producer responsibility compliance scheme, the proposed regulations will require them to demonstrate capacity to effectively execute such responsibility.[34]

The individual extended producer responsibility model may not be a very viable option for the majority of enterprises in Kenya. Some key stakeholders such as Kenya Association of Manufacturers have pointed out that this model may only be practical to a limited extent due to the challenging logistical needs required for individual producers to know the exact spread of their products and how to access it at the post-consumer and/or end of life stage. In addition, stakeholders have cast doubt on the economic viability of the individual EPR model for small and medium enterprises and the informal sector that supply products in small quantities yet require similar logistical infrastructure as large companies that supply higher product volumes.[35]

3.1.2 Collective extended producer responsibility through producer responsibility organizations

The draft EPR regulations, however, also provide an option for producers to organize a collective EPR scheme through producer responsibility organizations that will be registered and licenced by NEMA.[36] Individual producers who do not have their own EPR compliance scheme will be required to be members of registered and licenced producer responsibility organizations.

Collective EPR through producer responsibility organizations as is envisaged by the draft EPR regulations, enable the pooling of resources by multiple producers in various sectors.[37] Such schemes are able to facilitate compliance by individual producers through joint take-back, collection, treatment, recycling or disposal systems thus enjoying the benefits of economies of scale.[38] In the model proposed by Kenya's draft EPR regulations, individual producers who are members of a pooled EPR scheme will pay fees to the producer responsibility organization which shall in turn assume full responsibility for the post-consumer and end of life management of the products, in this case plastics waste, on behalf of the producers.[39]

Kenya's draft EPR regulations also propose to limit the number of producer responsibility organizations to just one per waste stream.[40] In the case of plastic waste, therefore, there will only be one collective Producer Responsibility Organization should the regulations be passed in the current form. The Ministry of Environment and Forestry, which is spearheading the development of these regulations, argues that a single Producer Responsibility Organization will pool sufficient resources and enjoy economies of scale attributable to a large waste collection network and recycling capacity.[41]

Currently, there is a voluntary take-back scheme in place for plastic waste, that has the potential to develop into a Producer Responsibility Organization for the plastics sector in Kenya. The Kenyan PET Recycling Company (trading as PETCO) was incorporated in 2018 as the plastic industry's joint effort to self-regulate post-consumer PET recycling. PETCO has established drop-off points for PET bottles in major shopping malls in Nairobi where consumers can drop them for recycling. PETCO is also undertaking a public education and awareness campaign.[42]

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[34] Regulation 16 of the draft EPR Regulations, 2020.
[35] Kenya Association of Manufacturers (2019), *Kenya Plastic Action Plan.* https://kam.co.ke/kam/wp-content/uploads/2019/12/KPAP_Document-pages.pdf
[36] Regulation 8 of the draft EPR Regulations, 2020
[37] Mayers, K. and Butler, S. (2013). *Producer responsibility organizations development and operations*. Journal of Industrial Ecology, Vol. 17(2): 277-289
[38] Ibid.
[39] Regulation 12 of the draft EPR Regulations, 2020
[40] Regulation 17 of the draft EPR Regulations, 2020
[41] Interview with Dr. Ayub Macharia, Ministry of Environment and Forestry, 23.11.2020.
[42] See PETCO website *for more information* https://www.petco.co.ke/ .

3.2 Consumers

Consumers include all persons and entities that use plastic products or packaging and introduce them into the environment in the post-consumer or end of life stage. Kenya's draft EPR regulations do not have any elaborate provisions on the role of consumers in the proposed EPR system. Rather, what is captured is the requirement that producers should create awareness and provide consumers with information about their role regarding reuse, return, and take-back and recycling of various post-consumer products and wastes.[43]

Consumers have a critical role to play in the plastics EPR system because the success of such a scheme largely depends on the quality and recyclability of the waste put out by the consumers.[44] Proper waste separation and sorting at source can improve the quality of the recyclable plastics. Whereas Kenya's waste management regulations require waste segregation at source, this is largely not practiced due to poor waste collection systems and ineffective law enforcement.[45] The role of consumers in Kenya's proposed EPR system needs to be better articulated and backed with appropriate incentives for waste sorting at source and take-back at designated collection points in order to ensure quality flows of post-consumer plastics for recycling.

3.3 Waste operators

In any EPR system, waste operators play the primary role of implementation on the ground. They are primarily responsible for waste collection, transportation, treatment, recycling and/or final disposal. Kenya's draft EPR regulations do not give much prominence to the role of waste operators, save for the provision that individual EPR schemes and collective producer responsibility organizations may contract third parties to undertake intermediary services such as collection and take-back, and waste treatment, recycling and/or final disposal.[46] It is worthy to note, however, that even in instances where waste operators are contracted to deliver intermediary services within the EPR scheme, the proposed regulations still place the overall responsibility over the product or packaging throughout the entire product life cycle including end of life processes such as waste collection, recycling, treatment and/or final disposal on the producer.[47] It therefore follows that the success and level of compliance of any EPR scheme will largely depend on the capacity of waste operators. Institutionalizing the waste operators into the proposed EPR system is therefore critical as it will ensure better collection and recycling capacity while at the same time providing an easy way of monitoring on the ground collection of recyclable plastics.

3.4 Regulatory authorities

Kenya's framework environmental law confers power upon the minister responsible for environmental affairs, in consultation with the National Environment Management Authority (NEMA) and other stakeholders, to issue regulations for the sound management of any waste.[48] The country's draft EPR regulations are anchored on these provisions.

EPR legislation often creates mandatory compliance requirements. To this end, governmental regulatory authorities have the legal mandate to monitor and supervise the operations of the EPR systems to ensure compliance with set legal requirements.

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[43] Regulation 5(7) of the draft EPR Regulations, 2020

[44] Merkx, B. (2000). Background, Reasons and Expectation of Network Activities. The View of the Plastics Conversion Industry EuPC and Plastic Recycling Industry EPR. *Thematic Network: Eco-efficient treatment of platics in ELV.* Plastics in ELV. Oct 2000. Brussels.

[45] Opondo, G. (2020). *The legal and institutional framework governing marine plastics in Kenya.* A scoping report prepared for the IUCN MARPLASTICCS Project.

[46] Regulation 9 of the draft EPR Regulations, 2020

[47] Ibid

[48] Section 86 as read with Setion 147 of the Environmental Management and Co-ordination Act, No. 8 of 1999 (Rev. Ed. 2018).

Kenya's draft EPR regulations seek to embed the implementation of the proposed EPR mechanism into the country's existing institutional structures for environmental management. Under Kenya's framework environmental law, NEMA is the principal government agency responsible for supervision, coordination, implementation, monitoring and enforcement of all national government policies and laws relating to the environment.[49] NEMA works jointly with other state agencies and the county governments to ensure effective implementation, monitoring and enforcement of different environmental laws and regulations including those touching on waste management and protection of the marine environment.

The draft regulations give the NEMA a central role in implementation and enforcement of the country's proposed EPR mechanism. The draft regulations designate NEMA as the national clearing house, registration and licensing entity for all extended producer responsibility schemes. All individual or collective EPR compliance schemes will be required to be registered and licenced by NEMA in order to operate.[50]

However, the role of sub-national regulatory institutions at county level is not featured at all in the proposed institutional framework under Kenya's draft EPR regulations. The Constitution of Kenya places waste management responsibilities on the county governments.[51] It is therefore critical that the role of these sub-national governance units be clearly outlined in the overall EPR institutional framework. Their roles could include, among others, monitoring and enforcing compliance with local waste management requirements such as waste separation at source, and supervising local take-back mechanisms that feed into the overall plastics waste recycling scheme of the EPR system.

4 Informal sector

This section explores how a plastics waste EPR system for Kenya could be made inclusive and accommodative of the informal sector.

4.1 Overview of the informal sector

The term 'informal sector' (also known as informal economy) refers to "all economic activities that are, in law or in practice, not covered or insufficiently covered by formal arrangements".[52] According to the International Labour Organization, the characteristics of the informal economy include "small or undefined work places, unsafe and unhealthy working conditions, low levels of skills and productivity, low or irregular incomes, long working hours and lack of access to information, markets, finance, training and technology".[53] The activities and operations of the informal sector are often outside the formal reach of the law for two reasons: not being covered within the express provisions of the law, and/or not being reached due lack of or inadequate application and enforcement of the law.[54]

Kenya's informal sector is comprised of "small-scale activities that are normally semi organized, unregulated and use low and simple technologies".[55] Despite these characteristics, Kenya's informal sector plays an increasingly important role in the country's economy. For example, in 2018, it is reported that 83.6 per cent of the total new employment created in Kenya was attributed to the informal sector.[56]

4.2 Role of informal sector and challenges of integration into the EPR system

Many developing and middle income countries are characterised by a fast pace of economic growth accompanied by high consumption and waste generation. However, these countries have unstable

[49] Section 9 of the Environmental Management and Co-ordination Act, No. 8 of 1999 (Rev. Ed. 2018).
[50] Regulation 8 of the draft EPR Regulations, 2020
[51] Fourth Schedule of the Constitution of Kenya.
[52] International Labour Commission Resolution on Decent Work and Informal Economy: Resolution of the General Conference of the International Labour Organization, meeting in its 90th Session, 2002. https://www.ilo.org/public/english/standards/relm/ilc/ilc90/pdf/pr-25res.pdf
[53] Ibid.
[54] Ibid.
[55] Kenya National Bureau of Statistics, Economic Survey 2019.
[56] Ibid.

waste management systems that often result in leakages of waste such as plastics into the environment.[57] The informal waste management sector plays a critical role in the overall waste management structures of developing and middle income countries that have limited waste management systems such as Kenya.[58] The informal sector carries out waste collection services within significant populations not adequately serviced by formal waste collection players such as municipal authorities. In addition, informal waste pickers recover valuable recyclable or reusable materials such as plastics from the waste which they in turn sell to earn a living.[59]

Kenya's informal waste management sector situation is typical for many developing countries and countries with economies in transition. The sector has the following key characteristics:

- Unregistered and/or unlicensed waste collection, transportation, recycling and/or disposal systems that operate outside Kenya's formal waste management regulatory regime. Technically, the activities and operations of most informal waste management enterprises are illegal and this situation often puts the operators at loggerheads with regulatory agencies such as the National Environment Management Authority and the County Governments.

- Inferior waste collection, handling, transportation, processing and/or recycling technologies that often result in great occupational and environmental risks. For this reason, it may be difficult to engage them in the formal EPR system that requires compliance with both occupational and environmental regulations and standards.

- Temporary premises. The informal waste operators in large cities such as Nairobi run into several thousands. Yet, these operators often have no fixed premises and this makes it difficult to organize them into a system that ensures continuous flow of recovered materials that can feed a formal EPR system. The majority of them act as collectors who sell the recyclables to middlemen or directly to recyclers, while others operate in informal 'premises' such as roadsides/road reserves, power way-leaves and riparian reserves. This situation also poses a great difficulty for regulatory agencies to effectively monitor the activities of the sector.

Kenya's informal waste sector plays a very important role in post-consumer plastic waste management. The activities and operations of these informal waste operators come in the form of individual informal enterprises and community groups or associations.[60] These informal waste management enterprises have been in existence for many years and many more are coming up within different neighbourhoods in Kenya's cities and urban areas. The motivation for such enterprises include: the need to fill in the gap left by formal municipal waste management authorities whose coverage often does not reach all corners of their areas of operation, especially the low-income neighbourhoods in informal settlements; and the need create employment and earn a living for many youth who are not able to get formal employment as a result of Kenya's high unemployment levels.[61]

The informal actors are mainly engaged in waste collection, transportation, separation, sorting, cleaning, bulking, selling, and in some instances dismantling, semi-processing and/or recycling waste plastics.[62] They operate in different fashions – ranging from door to door collection of recyclable plastics materials to sorting of waste at communal waste collection points and municipal dumpsites (there are

[57] OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.
[58] OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.
[59] Ibid.
[60] Oyake-Ombis, L. *et al.* (2015). Managing Plastic Waste in East Africa: Niche Innovations in Plastic Production and Solid Waste, *Habitat International* 48:188-197.
[61] Oyake-Ombis, L. *et al.* (2015). Managing Plastic Waste in East Africa: Niche Innovations in Plastic Production and Solid Waste, *Habitat International* 48:188-197.
[62] Ibid.

no sanitary landfills in Kenya). In some instances, for example at Nairobi's Dandora dumpsite, these actors operate in gang-like cartels with some of their activities bordering on crime.[63]

Implementing an EPR system for plastics in a country like Kenya where the informal sector has a significant role and influence in waste management, and where this role and influence is not only tied to incomes and livelihoods but also has some 'illegal" aspects that border on crime is likely to be a big challenge. According to OECD, EPR systems in this kind of setting often create competition for valuable waste materials thus interfering with the livelihoods of the informal waste sector players, with a potential to result into conflict between the formal recyclers and informal operators.[64] For example, as far back as 2008, informal waste pickers in Nairobi had already voiced livelihood concerns over the potential negative impacts of an EPR system for e-waste sector in Kenya.[65]

4.3 Integration and formalization of the informal sector

OECD recommends that middle income countries with limited waste management systems such as Kenya should consider policy options that take into account the livelihood aspects of the informal sector while addressing the occupational and environmental concerns associated with it.[66] Kenya's proposed EPR regime therefore needs to factor in innovative ways of integrating the informal waste sector into the entire set-up of the mechanism without compromising livelihoods for the thousands of operators employed in the sector.

Kenya needs to consider integration and formalization of the informal sector as a possible strategy for the proposed EPR mechanisms:[67] Kenya needs to consider accommodating and recognizing the informal waste actors within the framework of the proposed EPR regulations. This could entail, for example, establishing some form of recognition, registration and licencing system that is accessible and within the economic reach of the informal operators. It could also entail organizing the operators into formal entities such as registered business enterprises or companies, community based organizations or cooperative societies.

Integration and formalization is beneficial to both the informal sector and the government: it affords the informal sector opportunities to upscale operations through wider access to operational funds which could in turn achieve better incomes, and access to capacity building opportunities and better tools and technologies for safe and environmentally friendly operations. For the government, it enables regulators such as environmental and tax authorities to easily access and monitor and the activities of these enterprises. In addition, it brings the players into a formal system that operates within regulatory requirements and standards.[68]

The World Wide Fund for Nature (WWF) – an international NGO –is already working with informal waste operators at Kenya's coastal city, Mombasa, to build their capacity and support them to organize into formal entities such as registered companies. The intention is to connect these operators with formal recyclers and to by-pass middlemen in the waste sector. These kinds of interventions will ensure that the informal waste operators provide a steady stream of supply of recyclable materials such as plastics to formal recyclers within the EPR system, and at the same time get better prices to support their livelihoods.[69]

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[63] Khayanje, K.B. (2008*) Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems*, Masters Thesis, IIIEE, Lund University.
[64] OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.
[65] Khayanje, K.B. (2008*) Extended Producer Responsibility in Cleaner Production: Policy Principle to Promote Environmental Improvements of Product Systems*, Masters Thesis, IIIEE, Lund University.
[66] Ibid. OECD (2016)
[67] Ibid.
[68] Ojino, J. (2016). *EPR as a Mechanism for Integrating the Informal Sector An Evaluation of Post-Consumer PET Waste Management in South Africa*. IIIEE, Lund University.
[69] Telephone interview with Mr. Alex Kubasu, WWF-Kenya, Communications and Partnerships Officer on 11.12.2020

5 Behavioural level

Behaviour change is central to the achievement of any set environmental goals. Just like other policy or legal tools, EPR is about motivating change of behaviour in order to achieve diverse environmental goals including: to conserve natural resources by reducing waste at source; to prevent waste generation; and to design more environmental friendly products and packaging.[70] EPR seeks to achieve these goals by extending the responsibility of producers over their products and packaging to the post-consumer stage. Applying EPR approaches to plastic products and packaging is likely to influence the behavoiur of different stakeholders in different ways. This chapter explores how implementing an EPR scheme for plastic products and packaging would affect the behaviour of different stakeholders in Kenya. These stakeholders include government agencies and officials, businesses/private sector actors, consumers/users, and civil society.

5.1 Government agencies/officials

The government agencies responsible for waste management and/or prevention of marine plastics pollution in Kenya such as the National Environment Management Authority and county government environment departments, have insufficient monitoring and law enforcement capacities.[71] These agencies have to contend with all the plastics waste generators across the country – manufacturers, importers, distributors, retail outlets and individual households, among others. Efficient monitoring and enforcement across the entire plastic products value chain is thus very daunting with potential issues always lingering.

The establishment of a legally mandated EPR regime has the potential to ease the monitoring and enforcement burden for these agencies and their officials. For example, the setting up and registration/licensing of collective producer responsibility organizations will make it easy for regulatory bodies to track and enforce compliance with requirements of the EPR and waste management legislation.

5.2 Business/private sector

The proposed definition of 'producer' under Kenya's draft EPR regulations is so wide as to capture any person or entity that introduces any products and/or packaging materials into the Kenyan market by way of manufacturing, semi-processing, finishing of semi processed goods, importation, distribution and/or sale of products or packaging materials.[72] This definition covers mainly individuals and business entities in the private sector involved in manufacturing and/or other forms of production and trade. Like in other jurisdictions where EPR has been implemented, Kenya's EPR system will require businesses and the private sector to assume extended producer responsibility over the plastics products or packaging introduced into the market. This requirement is likely to affect the behaviour of business entities as follows:

5.3 Change of product design and packaging

EPR is likely to influence producers to change the design of products and packaging by increasing reusability and recyclability, and minimizing overall environmental impacts throughout product life cycles. In addition, producers are likely to adopt less packaging strategies in order to reduce the amount of packaging waste requiring take-back. Kenya's draft EPR regulations already propose the placing of an obligation on producers to design products and packaging materials that 'minimize waste, facilitate reuse, recycling, recovery and are environmentally friendly at their end of life'.[73] However, the provision is quite general and leaves it open for producers to determine what product design options to adopt, with no other specific requirements on producers. In addition, the regulations have a non-binding

[70] Chin-Yu, D.L (2002). *Extended Producer Responsibility and the Market Development for Recycled Plastics: Two Norwegian cases of using recycled polypropylene in chairs*. Masters Thesis, IIIEE, Lund University, Sweden.
[71] Opondo, G. (2020). *The legal and institutional framework governing marine plastics in Kenya.* A scoping report prepared for the IUCN MARPLASTICCS Project.
[72] Regulation 2 of the draft EPR Regulations, 2020
[73] Regulation 5(2) of the draft EPR Regulations, 2020.

provision to the effect that producers 'may carry out product life cycle assessment in relation to their products for enhancing environmental sustainability'.[74] This provision is in a way similar to the European Union Directive on Packaging and Packaging Waste that requires packaging materials to be designed in a manner that permits reuse or recovery and minimizes environmental impacts when finally disposed of.[75]

There are various design methodology options available for producers to assure environmentally friendly products and packaging. Examples include: Environmentally Conscious Design and Manufacturing (ECDM), Design for Environment (DFE), Green Engineering (GE) and Life Cycle Analysis (LCA), among others.[76] Whereas the various approaches may be different in terms of application, they all have a common goal of ensuring minimal environmental impacts throughout the product life cycle.[77] Besides the environmental benefits that could be realized by re-engineering product design, producers may also reap economic benefits associated with reduced waste and/or conservation of raw materials during manufacturing.[78]

5.4 Establishment of take-back/collection and recycling infrastructure

In order to meet the take-back and recycling targets that may be set under the proposed EPR scheme, business enterprises – manufacturers, distributors, wholesalers and retailers – are likely to invest in take-back/collection and recycling infrastructure for their post-consumer and/or end of life plastics. In Germany, for example, the passage of the mandatory waste avoidance ordinance with the resultant pressure to meet collection targets, forced the packaging industry producer responsibility organization – the Duales System Deutchlands - to establish the necessary collection and take-back infrastructure for its members packaging materials.[79]

The enactment of a mandatory EPR law in Kenya is likely to result in the transformation of existing voluntary take-back schemes such as PETCO into producer responsibility organizations operating within the context of the EPR law.

5.5 Potential conflict between large and small enterprises

Large and medium enterprises are more likely to embrace and implement the mandatory take-back scheme that would come with Kenya's EPR system. However, micro and small enterprises that typically have diminished technical and financial muscle are likely to find it difficult to comply with the requirements in view of the massive investment required to finance and run the necessary collection and recycling infrastructure. This situation could lead to the 'free-riders' phenomenon where the micro and small enterprises benefit from the collection and take-back/recycling infrastructure yet they do not pay for it.[80] A conflict could thus arise between the large and micro/small enterprises regarding the leveling of the playing field for business vis-à-vis environmental compliance.

5.6 Consumers and users

The costs associated with running the plastic products and packaging EPR scheme are likely to be passed on to consumers through increased prices of products and packaging. The increased price is likely to motivate consumers to re-use products and packaging items so as to save on costs. The environmental benefit will be less waste entering the environment before end of life as a result of more and more products or packages being re-used.

[74] Regulation 5(6) of the draft EPR Regulations, 2020.
[75] Directive (EU) 2018/852 of the European Parliament and of the Council of 30 May 2018 amending Directive 94/62/EC on packaging and packaging waste.
[76] Williams et. al., *Current Status of Extended Producer Responsibility Legislation and Effects on Product Design,* Proceedings of 2000 ASME Japan-USA Symposium on Flexible Automation, Paper Number 2000JUSFA-13000. Ann Arbor, MI, USA. July 24-26, 2000.
[77] Ibid.
[78] Ibid.
[79] Ibid.
[80] Ibid.

An efficient take-back scheme is also likely to instill greater environmental awareness among consumers. Consequently, more and more consumers will adopt better waste disposal practices for recyclable plastics e.g. delivering them at designated collection centers for recycling, especially if there is also a monetary incentive or other direct economic benefit tied into the EPR system. These incentives are however not embedded in the draft EPR regulations.

5.7 Civil society

Civil society refers to a wide range of both formal and informal groups such as non-governmental organizations, trade unions, faith-based organizations and community based organizations that play diverse roles in society.[81] In many countries, civil society groups play a watch-dog role on diverse societal issues such as environmental protection, human rights, etc.

An EPR system in Kenya is likely to provide a new frontier for civil society lobbying, advocacy and partnership with the government. Already, WWF is providing expert support to Kenya's Ministry of Environment and Forestry in the development of EPR regulations.[82] WWF is also looking forward to supporting stakeholder engagement, public education and awareness, and capacity building for implementing and enforcement agencies once the draft regulations become law.[83] Besides these roles, civil society organizations are also forecasting a watch-dog role to ensure accountability of different players in implementation of the EPR regulations once they become law.[84] In addition, the following are some examples of topics that could potentially become rallying points for civil society lobbying and advocacy following implementation of EPR systems in Kenya:

- Livelihoods – the need to ensure the EPR system does not interfere with a critical source of income and livelihood for informal waste pickers.
- Pricing for recyclables – there is likely to be a greater voice for the fair pricing of recyclable waste plastics so that waste pickers also benefit from the EPR scheme.
- Recognition – many groups are likely to lobby for the formal recognition and integration of informal waste operators in the EPR system.

6 Outcome level

There are numerous possibilities in terms of environmental outcomes of an EPR scheme for plastic products and packaging. Whereas it is not possible to predict with certainty the potential outcomes of implementing an EPR system in Kenya, there are likely to be both positive and negative outcomes. This section explores these potential outcomes of implementing an EPR scheme for plastic products and packaging in Kenya.

6.1 Positive outcomes

6.1.1 Increased collection and recycling

EPR programmes have been shown to significantly enhance waste collection and recycling rates by channelling more resources towards waste management beyond normal government commitments.[85] In Germany, for example, there was a record rise in relying of packaging waste from 52% to 84% within three years following implementation of EPR for packaging. [86] An increase in plastic waste collection

[81] World Economic Forum (2013), The Future Role of Civil Society. http://www3.weforum.org/docs/WEF_FutureRoleCivilSociety_Report_2013.pdf
[82] Telephone interview with Mr. Alex Kubasu, WWF-Kenya Communications and Partnerships Officer on 11.12.2020
[83] Ibid.
[84] Telephone interview with Mr. Griffins Ochieng, Centre for Environment Justice & Development on 10.12.2020
[85] OECD (2016), *Extended Producer Responsibility: Updated Guidance for Efficient Waste Management*, OECD Publishing, Paris.
[86] Fishbein, B. K. (1994), *Germany, Garbage, and the Green Dot: Challenging the Throwaway Society,* New York: INFORM.

and recycling in Kenya may result in less plastic leakages, which at the same time will likely lead to a cleaner and healthier marine environment.

6.1.2 Better waste handling practices

Implementing an EPR system is also an opportunity to integrate informal sector players. This could result in better waste handling and recycling technologies within the informal sector in compliance with formal regulations and standards, and could potentially increase recycling rates and reduce environmental leakages, hence contribute to a cleaner marine environment.

6.1.3 Positive consumer attitudes

Demonstrated benefits of the EPR system, coupled with public education and awareness towards the more environmentally-friendly products and packaging, could shift consumer trends towards environmental friendly purchases and practices. This shift can reduce the demand for plastic products and/or packaging and also inculcate better waste handling practices among consumers.

6.1.4 Reduced financial burden on governments and municipalities.

For a middle income country like Kenya where the financing of waste management systems has been a major limitation, the introduction of the EPR scheme can result in shifting the fiscal burden for waste management to the producers and importers. This will ease the financial burden on governments and municipalities for waste management with the potential for increased efficiency in collection and recycling.

6.2 Development of a circular economy

The implementation of the EPR scheme is likely to bring about an improvement of performance of products through their life cycle by ensuring they remain within the cycle from manufacture, to use to recycling and back again. Also, the use of eco-modulation of fees on packaging provides incentives to organizations involved in the EPR scheme to apply eco-criteria to their products.[87]. This enables companies to shift to more recyclable packaging so as to incur in less fees, and promotes the establishment of a circular economy.

6.3 Negative outcomes

6.3.1 Increase in commodity prices

EPR often requires that the cost of product redesign and/or managing of the product or packaging at post-consumer or end of life stage, be incorporated into the product's retail price. The adherence to strict EPR requirements could increase the cost of production which can impact the costs of the product itself, costs that would fall on the customers by higher prices. Implementing an EPR system is therefore likely to result in increases of product retail prices that may discourage consumers from eco-friendly purchases. By opting for cheaper but environmentally unfriendly purchases of imported goods especially, consumers are likely to balance off any gains that an EPR system could bring.

6.3.2 Un-intended environmental hazards

Collection and storage of large amounts of plastics for recycling is likely to create un-intended environmental hazards. For example, stored plastics could accidentally catch fire and result in toxic emissions.

[87] Watkins et al. (2017) EPR in the EU Plastics Strategy and the Circular Economy: A focus on plastic packaging.

7 Conclusion and recommendations

The following are the key conclusions and recommendations of the report.

1. **Foundation for EPR legislation in Kenya:** Kenya has a strong legal and policy foundation for enactment and implementation of EPR legislation as a tool to address leakage of plastics into the marine environment. Some of the MEAs that Kenya is party to, such as the Stockholm Convention on Persistent Organic Pollutants, the International Convention on Civil Liability for Oil Pollution Damage, and the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, 1972 all encompass the "polluter pays" principle which is the foundation of EPR. Also, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, which Kenya is party to, obligates Parties to take measures to minimize the generation of hazardous wastes. Kenya's Constitution and framework national environmental law and waste management regulations, as well as the country's overarching national policy on environment and the national strategy for solid waste management, all create a sound basis for EPR implementation in Kenya. The country therefore needs to press on with the current efforts to enact EPR regulations for various products and packaging materials including plastics.

2. **Institutional structure for EPR implementation:** An efficient EPR system in Kenya will require the participation of all the key actors in the plastic products and packaging value chain – producers, consumers, waste operators and regulatory authorities. The country's EPR legislation will therefore need to delineate clear roles for each of these actors. The draft EPR regulations could be strengthened in terms of the role of consumers, the informal sector and sub-national (county) regulatory authorities. There is an opportunity to revise the draft regulations to ensure these weak points are refined.

3. **Individual vs. collective extended producer responsibility:** The logistical investments required to set up an efficient EPR system, for example waste collection and take-back mechanisms and recycling facilities, may not be an economically viable option for many producers in Kenya who fall under the micro, small and medium enterprises categories, and the informal sector. There is therefore a need to conduct a detailed feasibility assessment for potential EPR legislation in order to determine whether the option of individual EPR compliance schemes should be permitted by legislation. The feasibility study could also assess the potential participation of the micro and small enterprises in collective EPR compliance schemes so as to determine the best policy options for legislation.

4. **Roles for national and sub-national regulatory authorities:** Kenya's system of governance, grants the minister responsible for environmental affairs the power to issue regulations for management of different aspects of the environment such as solid waste. The National Environment Management Authority – an agency of the national government –exercises overall coordination and supervision of implementation of all government policies on the environment. At the same time, the waste management mandate is delineated by the Constitution as a function of the county governments. These separate yet complimentary roles should therefore be recognized within any EPR legislation and clear mandates should be established for the two levels of government.

5. **Informal sector integration**: Kenya's informal waste operators provide critical services of waste collection, transportation, separation, sorting, cleaning, bulking, selling, and in some instances dismantling, semi-processing and/or recycling. For many in the informal sector, their services are also a form of employment and a question of livelihood. An EPR system has the potential of disrupting the livelihoods of many players within Kenya's informal waste sector. The country therefore should consider policy options that take into account these aspects of the informal sector while addressing the occupational and environmental concerns associated with it. Kenya's proposed EPR regime needs to factor in innovative ways of integrating the informal

waste sector into the entire set-up of the mechanism without compromising livelihoods for the thousands of operators employed in the sector.

6. **Outcomes of EPR implementation:** Implementing an EPR system is likely to come with a mixed bag of outcomes, both positive and negative. A strategic environmental and social assessment is recommended to map out the likely environmental outcomes of EPR as a policy option to address the leakage of plastics into the marine environment.

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